

## REMARKS

### A. Request for Reconsideration

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the position that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the amendments to the claims and the following remarks.

### B. Claim Status and Amendments

Claims 1-4, 6 and 10-13 are presented for further prosecution. Claims 5 and 7-9 have been cancelled by this amendment.

Claim 1 has been amended to include the limitations of claim 5. Claim 1 now recites that the silver halide grains contain an organic dopant capable of trapping electrons inside the grains. As a result, claim 5 has been cancelled and claim 6 has been made dependent upon claim 1.

Claim 1 has also been amended to include the chalcogen and nitrogen limitations of claim 7. Support can be found in cancelled claim 7 and at page 19, lines 22-23 of the application.

Claim 1 has further been amended to recite that the organic dopant is added after nucleus formation and during grain growth so that the organic dopant is located inside the grains. Support for this amendment can be found at page 23, lines 6-15 of the application.

C. Kudo and PS '266

Claims 1-4 had been rejected for obviousness-type double patenting as being unpatentable over claims 1, 7 and 16 of Kudo (US 6,808,872); and claims 1-4 had been rejected as being anticipated by or unpatentable over Patent Specification 1543266 (PS '266).

In light of the addition of claim 5 to claim 1, these rejections are deemed moot.

D. The rejection under § 112

Claims 1-13 had been rejected under 35 USC § 112 as being indefinite.

The Examiner had stated that the determination of  $S_B/S_A$  is confusing based on the explanation at page 26 of the application. In sum, the Examiner referred to Figure 4.1 of "The Theory of the Photographic Process" to show that  $S_B$  and  $S_A$  must be calculated using multiple exposure values.

Applicants agree with the Examiner that many data points are needed to determine  $S_A$  and  $S_B$ . Using the optical wedge recited in claim 1, it is possible to vary  $\log E$  in 0.1 increments. Thus, a characteristic curve is produced with many values for the abscissa  $\log E$  and the ordinate density.

Applicants therefore respectfully submit that the calculation of  $S_A$  and  $S_B$  is not indefinite, since the optical wedge varies  $\log E$  by 0.1 increments and produces a characteristic curve based on multiple exposure values.

E. Fukui and Yanagisawa with PS '266

Claims 1-13 had been rejected as being anticipated by or unpatentable over Fukui (US 2002/0102502), or Yanagisawa (EP 1168066) in view of PS '266.

1. The organic dopant of claim 1 and the  $S_B/S_A$  ratio

Applicants had previously submitted the February 2005 Declaration of Mr. Kashiwagi to demonstrate that the material of Fukui does not inherently satisfy the claimed  $S_B/S_A$  ratio (see Table 4 of the Declaration).

In the outstanding Office Action, the Examiner was not convinced by the Declaration. The Examiner stated that the materials of Fukui, PS '266 and Yanagisawa are identical or similar to the material of the invention. Thus, the Examiner

placed little weight on the Declaration and had taken the position that the materials of the cited references inherently meet the claimed  $S_B/S_A$  ratio.

Applicants have amended claim 1 to more clearly explain how the  $S_B/S_A$  ratio is satisfied to show that the materials of the cited references do not inherently satisfy the claimed  $S_A/S_B$  ratio.

Claim 1 has been amended to recite that the organic dopant is added after nuclei formation and during grain growth. When the dopant is added at this time, the dopant is located on the interior of the silver halide grains, and electrons are trapped inside the silver halide grains. Sensitivity ( $S_B/S_A$  ratio) is enhanced as a result (page 18, par. 2).

It is submitted that this amendment helps to clarify one of the novel aspects of the present invention, namely, that the dopant is located on the interior of the silver halide grains so as to trap electrons inside the grains and satisfy the claimed  $S_B/S_A$  ratio.

2. The materials of the cited references do not contain an organic dopant capable of trapping an electron inside the silver halide grains

The Examiner had taken the position that the materials of Fukui, PS '266 and Yanagisawa inherently meet the claimed  $S_B/S_A$

ratio. Applicants respectfully disagree, since Fukui, PS '266 and Yanagisawa do not teach adding an organic dopant after nucleus formation and during grain growth. Thus, the materials of Fukui, PS '266 and Yanagisawa do not trap electrons inside the silver halide grains and do not inherently satisfy the claimed  $S_B/S_A$  ratio.

Fukui teaches adding a hexacyano metal complex to the silver halide grains. However, the complex is present on the outermost surface of the grains, not on the inside (par. 101 of Fukui). Furthermore, Fukui explains that the complex is added after formation of the grains so that the complex is on the outside of the grains (par. 105 of Fukui).

Fukui therefore does not teach or suggest adding an electron trapping dopant after nucleus formation and during grain growth as recited in claim 1. This is the reason why the sample of Fukui evaluated in the February 2005 Declaration did not satisfy the claimed  $S_B/S_A$  ratio. Applicants therefore respectfully submit that the material of Fukui is different than the material of claim 1, and that the material of Fukui does not inherently satisfy the claimed  $S_B/S_A$  ratio.

Similar to Fukui, the material of PS '266 does not contain an electron trapping dopant added after nucleus formation and during grain growth. Applicants therefore respectfully submit that the material of PS '2665 is different than the material of

claim 1, and that the material of PS '266 does not inherently satisfy the claimed  $S_B/S_A$  ratio.

Yanagisawa also does not teach the claimed organic dopant. In par. 228, Yanagisawa adds 4-hydroxy-6-methyl-1,3,3a,7-tetraazaindene after grain growth. This is true since Yanagisawa adds this compound after nucleus formation in the first double-jet process (lines 4-5 of par. 228), and after grain formation the second double-jet process (line 7 of par. 228). Thus, in contrast to claim 1, par. 228 of Yanagisawa explains that 4-hydroxy-6-methyl-1,3,3a,7-tetraazaindene is added after grain growth.

Similarly, par. 253 of Yanagisawa adds 4-hydroxy-6-methyl-1,3,3a,7-tetraazaindene after grain growth, since this compound is added after the double-jet process that grows the silver halide grains. Thus, par. 253 also does not teach amended claim 1.

Yanagisawa therefore does not teach or suggest adding an electron trapping dopant after nucleus formation and during grain growth as recited in claim 1. Applicants therefore respectfully submit that the material of Yanagisawa is different than the material of claim 1, and that the material of Yanagisawa does not inherently satisfy the claimed  $S_B/S_A$  ratio.

In summary, Applicants respectfully submit that the material of claim 1 is different than the materials of the cited references due to the presence of the electron trapping dopant inside the silver halide grains. The materials of the cited references therefore do not inherently satisfy the claimed  $S_B/S_A$  ratio. It is therefore respectfully submitted that the present invention is patentable over Fukui, PS '266 and Yanagisawa.

F. Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested. Should any extensions of time or fees be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit Account # 02-2275.

Respectfully submitted,

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